

## § 154.526

(3) An inert gas back-up on the first weld pass.

(b) A slip-on welded joint with sleeves and attachment welds is allowed for an open ended pipe with an external diameter of 50 mm (2 in.) or less and a design temperature of  $-55^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ), or warmer.

(c) A socket weld fitting with attachment welds is allowed for pipe with an external diameter of 50 mm (2 in.) or less and a design temperature of  $-55^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ) or warmer.

(d) Screwed couplings are allowed for instrumentation and control piping that meets § 56.30-20 and § 56.50-105 (a)(4) and (b)(4) of this chapter.

(e) A method or fitting specially approved by the Commandant (CG-522).

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 82-063b, 48 FR 4782, Feb. 3, 1983]

## § 154.526 Piping joints: Flange connection.

Flange connections for pipe joints must meet § 56.30-10 and § 56.50-105 (a)(4) and (b)(4) of this chapter.

## § 154.528 Piping joints: Flange type.

(a) A flange must be one of the following types:

- (1) Welding neck.
- (2) Slip-on.
- (3) Socket weld.

(b) If the piping is designed for a temperature between  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) and  $-55^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ), the pipe flange may be a:

- (1) Slip-on type, if the nominal pipe size is 100 mm (4 in.) or less;
- (2) Socket weld, if the nominal pipe size is 50 mm (2 in.) or less; or
- (3) Welding neck.

(c) If the piping is designed for a temperature lower than  $-55^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ), the pipe flange must be a welding neck type.

## § 154.530 Valves: Cargo tank MARVS 69 kPa gauge (10 psig) or lower.

(a) Except those connections for tank safety relief valves and for liquid level gauging devices other than those under §§ 154.536 and 154.1310, liquid and vapor connections on a cargo tank with a MARVS of 69 kPa gauge (10 psig) or lower must have shut-off valves that—

(1) Are located as close to the tank as practical;

(2) Are capable of local manual operation; and

(3) May be remotely controlled.

(b) The cargo piping system for a cargo tank with a MARVS of 69 kPa gauge (10 psig) or lower must have at least one remotely controlled quick-closing shut-off valve for closing liquid and vapor piping between vessel and shore that meets §§ 154.540 and 154.544.

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 77-069, 52 FR 31630, Aug. 21, 1987]

## § 154.532 Valves: Cargo tank MARVS greater than 69 kPa gauge (10 psig).

(a) Except connections for tank safety relief valves and except for liquid level gauging devices other than those under §§ 154.536 and 154.1310, liquid and vapor connections on a cargo tank with a MARVS greater than 69 kPa gauge (10 psig) must have, as close to the tank as practical, a:

(1) Stop valve capable of local manual operation; and

(2) A remotely controlled quick-closing shut-off valve.

(b) If the nominal pipe size of a liquid or vapor connection is less than 50 mm (2 in.), an excess flow valve may be substituted for the quick-closing valve under paragraph (a) of this section.

(c) One valve may be substituted for the manual controlled stop valve and the remotely controlled quick-closing shut-off valve required under paragraph (a) of this section if that valve:

- (1) Meets §§ 154.540 and 154.544; and
- (2) Is capable of local manual operation.

## § 154.534 Cargo pumps and cargo compressors.

Cargo pumps and cargo compressors must shut-down automatically when the quick-closing shut-off valves under §§ 154.530 and 154.532 are closed by the emergency shut-down system required under § 154.540.

## § 154.536 Cargo tank gauging and measuring connections.

Unless the outward flow from a cargo tank is less than the flow through a circular hole of 1.4 mm (0.055 in.) in diameter, cargo tank connections for